

DEPARTMENT OF FOOD AND AGRICULTURE  
PROPOSED AMENDMENT OF THE REGULATIONS  
Title 3, California Code of Regulations  
Sections 3024, 3024.1, 3024.2, 3024.3, 3024.4, 3024.5,  
3024.6, 3024.7, 3024.8 and 3024.9  
INITIAL STATEMENT OF REASONS/  
PLAIN ENGLISH POLICY STATEMENT OVERVIEW

Description of the Public Problem, Administrative Requirement, or Other Condition or Circumstance the Regulations are Intended to Address

These regulations are intended to address the obligation of the Secretary of Food and Agriculture to maintain a voluntary program for the registration and certification of grapevines that are tested for specified viruses and viroids.

Specific Purpose and Factual Basis

The specific purpose of Sections 3024, 3024.1, 3024.2, 3024.3 and 3024.4 is to establish a voluntary program under which grapevine nursery stock may be produced and registered and/or certified as being true to type and tested for important diseases.

Existing law provides that the Secretary, for the purpose of promoting and protecting the agricultural industry of the state, may, upon request, inspect plants and the premises upon or near which they are growing and the records of their sources and qualities. The Secretary may upon the basis of information thus determined, maintain registries of the plants which are found not to be infested or infected, or liable to become infested or infected, with pests (Food and Agricultural Code, Section 5821). Existing law also provides that the Secretary may establish and enforce regulations that are necessary to carry out the purposes of the registries provisions (Food and Agricultural Code, Section 5823).

In 1952 it became apparent that severe virus disease problems existed in California vineyards and that a clean source of nursery stock identified as true to type was needed to improve production. As a result, the Department's Grapevine Registration & Certification Program (R&C Program) was established. The adverse effects of the virus/viroid diseases targeted in the R&C Program range from delayed ripening, reduced sugar, color and yield (as with leafroll) to leaf malformations, shot berry fruit, and yields that may drop to zero (as in the case with fanleaf). There is no way to remove these diseases, if present in a vineyard, short of replacing the known infected vines.

The purpose of the R&C Program is to establish a grapevine nursery stock production system that targets the elimination of specific grapevine diseases such as leafroll, fanleaf, corkybark, stem pitting and fleck that are spread from vine to vine by grafting and/or vegetative propagation. Additionally, some of the targeted diseases are also spread by soil nematodes (fanleaf) and mealy bugs (suspected of spreading leafroll). If *Xiphinema index* (dagger) nematodes are present in the vineyard's soil, fanleaf-infected vines can also serve as a source of infection and transmit the disease to healthy vines. These nematodes can survive in the soil up to 10 years on roots left behind after a vineyard is removed and will infect healthy vines that are replanted later in the same site. For these reasons, the R&C Program regulations include the requirement that a participant's vineyard must be separated by at least 100 feet from any site where non-registered grapevines have been grown within the past 10 years.

Under the R&C Program, correctly named true to type grape materials that pass specific disease tests are identified and/or created. Once identified, foundation grapevine materials are maintained by Foundation Plant Services (FPS) located at the University of California Davis (UC Davis). This foundation grapevine material can then be distributed to the R&C Program participants. The participants may then multiply the initial true to type disease tested grapevine material into commercial quantities for distribution according to the regulatory requirements of the R&C Program.

Over the years, University of California and United States Department of Agriculture scientists have improved and refined methods for grapevine disease detection and elimination. As a result, periodic review of the R&C Program regulations are necessary to determine if any of these new techniques which are determined to be effective, practical and scientifically reliable, should be incorporated into the regulations to further improve the quality of California foundation grape stock being distributed to R&C Program participants.

The foundation source vines for the R&C Program are maintained by FPS in its foundation vineyard blocks at UC Davis. These blocks contain vines that have been tested, or were propagated from sources that have been tested, using all the methods prescribed in the R&C Program regulations pertaining to foundation stock. During the first two years after a qualified vine is planted in the foundation block at FPS, the vines are tested annually for leafroll-associated and nematode-transmitted viruses using ELISA tests. In addition, as soon as the vines are large enough to produce fruit, they are visually inspected by a professional grape variety expert who checks the accuracy of the variety identification. As soon as disease negative vines are verified true to variety, they can be registered in the R&C Program and distributed as foundation stock.

The R&C Program includes provisions for three levels of "certified" stock. Propagation materials derived from foundation mother vines in the FPS foundation block are called "foundation stock." R&C Program participants may purchase foundation stock from FPS and plant it to create vineyards called "registered increase blocks." These blocks are inspected annually and tested as needed by the Department. Cuttings taken from registered increase blocks are called "registered stock." Grapevines made by rooting registered cuttings or grafting registered scion (fruiting) cuttings to registered rootstock cuttings are called "certified grapevines." In general, certified grapevines are then sold to growers for commercial vineyard plantings.

The Department is proposing to amend Sections 3024, 3024.1, 3024.2, 3024.3 and 3024.4; and, adopt Sections 3024.5, 3024.6, 3024.7, 3024.8 and 3024.9. The factual

basis for the determination by the Department that the amendment of these regulations and subsequent adoption of Sections 3024.5, 3024.6, 3024.7, 3024.8 and 3024.9 is necessary is as follows:

In 1996, the Department began working with the grapevine industry and the FPS to review and revise the Grapevine Registration and Certification Program regulations. This was necessary in order to incorporate new knowledge about grapevine diseases, new technology for detecting grapevine viruses and other graft transmissible pathogens, and best practices available for excluding disease from certified grape planting stock. In the fall of 2005, a concerted effort began and a series of meetings (October 12, 2005, January 13, 2006, February 22, 2006, April 26, 2006 and February 28, 2007) were held with grapevine nurserymen, grape growers, farm advisors, county agricultural commissioners, California Association of Wine Grape Growers, CDFA and USDA staff, and FPS personnel.

As a result of these meetings, the participants reached an agreement on a proposed set of regulations governing the future R&C Program.

#### Section 3024, Definitions

The proposed amendment of Section 3024 will delete the information pertaining to “Disclaimer of Warranties and Financial Responsibility” and relocated this information under Section 3024.1. The proposed amendment of Section 3024 will establish that it pertains to “Definitions” and it will contain the definitions of terms used in the proposed regulation and by the grapevine industry. The effect of the amendment of Section 3024 is to ensure all participants and other interested parties have a common vocabulary when discussing the R&C Program.

### Section 3024.1, General Provisions

The proposed amendment of Section 3024.1 will delete the definitions and relocate them to Section 3024. The proposed amendment of Section 3024.1 will establish that it pertains to “General Provisions;” incorporate the “Disclaimer of Warranties and Financial Responsibility,” reference to Title 3, California Code of Regulations, Section 3069; that participation is voluntary and may be withdrawn at any time; and that approvals, supervision, inspections, tests, determinations, registration and certification shall be conducted by the Department or its authorized agents. The effect of the amendment of Section 3024.1 is to establish that the program is voluntary, that it is administered by the Department and that the Department disclaims all warranties and financial responsibility for the grapevines produced in the program.

### Section 3024.2, Program Responsibilities

The proposed amendment of Section 3024.2 will establish that it pertains to “Program Responsibilities.” The information pertaining to “general provisions” was deleted and relocated under Section 3024.1. The subsection concerning eligibility for planting was deleted and relocated under Section 3024.3, Eligibility Requirements. The subsections concerning location and maintenance of plantings were deleted and relocated under Section 3024.5, Planting Location and Maintenance Requirements. All of the remaining subsections dealing with responsibilities of various parties were reorganized into three subsections. The proposed Section 3024.2 has three subsections: (a) Responsibilities of Foundation Plant Services (in the existing regulations, this subsection referred to the University of California), (b) Responsibilities of the participant, and (c) Responsibilities of the Department.

**Subsection 3024.2(a), Responsibilities of Foundation Plant Services.** This subsection, in the main, describes services that FPS is already providing and responsible for but which are not specifically stated in regulation. The only change to current practice is the requirement for FPS to provide the Department with reports

showing what materials were distributed and listing all the registered foundation mother vines upon request, instead of quarterly or annually as has been the practice in the past.

These responsibilities include:

- The selection of source grapevines for foundation stock,
- Conducting disease tests to qualify foundation block candidate grapevines for planting in the foundation block,
- Selecting the planting location for foundation block plantings,
- Identifying grapevine variety experts who will inspect or test vines in the foundation block for trueness-to-variety and document the results,
- Performing cultural practices required to maintain health and vigor of foundation vineyards,
- Maintaining an inventory of all registered vines in the foundation blocks,
- Maintaining records of all grapevines removed from the foundation block or from registration and reason for the removal; and, demonstrating that disease tests and inspections have been completed, and
- Notifying the Department, and participants who are affected, of any grapevines in the foundation block that are found to be diseased or off-type, and providing participants with documentation for all grape propagation materials and grapevines the participant received from FPS.

**Subsection 3024.2(b), Responsibilities of Participant.** This subsection includes all of the responsibilities contained in the existing regulations plus additional record keeping and reporting requirements and different time frames for reporting to the Department.

The proposed amendment establishes participants are responsible for their costs of participating in this voluntary program; the selection of the planting locations and obtaining written permission from the Department to plant in that site; and, procuring qualified propagative materials for planting in the primary and/or secondary increase block(s) and/or certified nursery plantings.

The existing regulations (subsection 3024.2(d)) require a participant to notify the Department in advance of any planting, topworking, or removal of any planting in the program. Under the proposed regulations, a participant will have up to six months to apply to the Department for registration of any planting or topworking in primary or secondary increase blocks, and up to two months to notify the Department of planting vines in a certified nursery planting. Additionally, at the time of application, the participant must submit records demonstrating that the grapevines are eligible for registration in the R&C Program.

Once the grapevines are registered, if the Department requests it, the participant must furnish records pertaining to the location and sales of registered or certified stock within five working days. This is due to certain circumstances requiring a rapid response from the Department. For instance, if a disease is detected in a foundation or registered vine, it would be necessary for the Department to locate any progeny of the diseased vine. In this case, the participant who has material propagated from the disease infected vine would be required to furnish records within five days of the Department's request. The same would hold true if registered grapevines were subsequently determined to be off-type.

Existing subsection 3024.2(b)(2) requires a participant to maintain the identity of all nursery stock in the program but it is not specific about how the stock is to be identified. This proposed amendment includes specific record keeping requirements for the primary and secondary increase blocks and certified blocks.

For primary and secondary increase blocks, the participant must maintain:

- 1) General information, including the participant's name, block location and block number.
- 2) Records of all registered grapevines that includes the following: variety name and FPS selection number, block, row, and grapevine location in field plantings or greenhouse location for potted grapevines; date of planting, replanting (if

applicable), and top working (if applicable). Additionally, for all primary increase block vines, the participant must identify the original foundation block row and vine source and all intermediate source vines, and provide a record of all grapevines that have been top worked. All sources for primary increase block vines are to be reported as a single vine in each generation. For secondary increase blocks, intermediate sources may be reported by designating a group of vines of the same FPS selection number.

- 3) Participants will no longer be required to notify the Department upon removing plants, but must maintain records of all grapevines in the program that have been removed from registration, the reason for the removal and the location of the grapevine before removal.
- 4) For any stock that is produced, sold, and/or traded, the participant must maintain records for at least five years after the date of disposition. The records must include: date harvested, disposition of stock, name and address of customer, tag number, date, number of units identified by each tag, plant type, variety, selection of scion, and nursery block identification.

For certified blocks, the participant must maintain:

- 1) A record of all the grapevines that have been removed from certification, the reason for the removal and location of the grapevine prior to removal.
- 2) For any stock that is produced, sold, and/or traded, the participant must maintain records for at least five years after the date of disposition. The records must include: date harvested, disposition of stock, name and address of customer, tag number, date, number of units identified by each tag, plant type, variety, selection of scion, and nursery block identification.

In addition to record keeping, other new responsibilities of the participant in the proposed regulations include:

- 1) Removal of grapevines from primary or secondary increase blocks which have been canceled or identified as off-type by the Department, within one month of notification by the Department. Current regulations stipulate that the participant is



responsible for removing off-type plants but do not set a time limit for the removal.

- 2) Physically identify/label registered grapevines in primary and secondary increase blocks as required by the regulation.
- 3) Notifying the Department at least 24 hours in advance of any pest control treatment(s) in plantings using a pesticide that has a reentry requirement. This only applies if the Department has notified the participant of any action that would bring a Department representative into the treated area.
- 4) Notifying in writing all recipients of nursery stock from suspended vines that a graft transmissible disease has been detected and reported by FPS or the Department.

**Subsection 3024.2(c), Responsibilities of the Department.** This proposed amendment to the regulation provides transparency for what have in the past already been routine practices by the Department.

These responsibilities include:

- Maintaining records of all current foundation blocks, primary and secondary increase blocks, and certified nursery plantings,
- Processing applications within 30 days of receipt,
- Approving planting sites,
- Inspecting and testing participant's primary and secondary increase blocks, and certified nursery plantings for diseases and off-types,
- Suspending the registration or certification of grapevines suspected of being diseased, off-type, and/or not produced in compliance with the provisions of the regulations,
- Canceling the registration or certification of grapevines that are found to be infected with diseases listed in Section 3024.6 or if the Department determines the vines are off-type, and/or the vines have been produced out of compliance with the provisions of the regulations,

- Notifying affected participants of suspension or cancellation of grapevines and propagative materials in the foundation block reported to be diseased or off-type, and
- Enforcing the suspension or cancellation of registered or certified vines and propagative materials.

The effect of the amendment of Section 3024.2 is to more clearly establish the program responsibilities of the Foundation Plant Services, participants and the Department.

### Section 3024.3, Eligibility Requirements

The proposed amendment of Section 3024.3 will establish that it pertains to “Eligibility Requirements.” The “Inspection and Testing Procedures” were deleted and where applicable, relocated to subsection 3024.6. Where still applicable, the eligibility requirements previously contained in subsection 3024.2(e) were incorporated into this section.

The proposed amendment establishes four subsections outlining the eligibility requirements for four different types of plantings; foundation block, primary increase block, secondary increase block and certified nursery planting.

The proposed subsection 3024.3(a) outlines the eligibility requirements for material in the foundation block. The existing regulation states that the requirement for maintaining candidate vines before planting is to be “protected from possible virus infection in an approved manner.” The proposed subsection describes in detail what these requirements are. Additionally, these new maintenance procedures for candidate vines have been used and proven to be effective for preventing virus infections at FPS for over 10 years. Allowing green and hardwood cuttings from registered or provisional foundation stock vines to be eligible for a greenhouse foundation block, requiring verification of variety, and prohibiting top-working are all current standard practices at FPS. They have proved to be useful for propagating foundation stock without

introducing virus or off-type materials and are therefore designated as the new required practices in the proposed regulations.

Top-working is specifically excluded at the foundation block level in the proposed regulations. If suckers from the lower/older selections grow and get mixed with the top stock, off-type plants will be produced. Top-working is also risky because the process involves multiple selections being grafted to a single vine, which increases the chance of introducing viruses.

Provisional foundation stock is a new category in the proposed regulations used to label propagative materials from a candidate selection that have passed all of the required disease tests but have not been verified true-to-variety. Before 1998, FPS grape materials were labeled registered or non-registered but this did not provide participants with enough information to identify all the materials eligible to plant in the R&C Program. This ensures participants who purchase provisional foundation stock from FPS know and assume the risks associated with propagating materials not confirmed as true-to-variety in order to be able to produce newly released selections faster. After provisional mother vines at FPS are confirmed true-to-variety, their status is changed to foundation stock and participants are retroactively notified. Participants may then apply with the Department to register these grapevines and their progeny. This enables participants to potentially produce and sell commercial quantities of new grape selections at least two years earlier by starting with provisional foundation stock. If a provisional selection proves to be off-type, FPS advises the Department and all customers who have received the material to discard or rename it.

The proposed subsection 3024.4(b) covers eligibility requirements for material in a participant's primary increase block. The existing regulation has requirements for an increase block in Section 3024.2(e)(2). The requirements for a primary increase block in the proposed regulations are more rigorous than what exists in current regulation. Stock eligible for planting in a primary increase block must be either foundation stock,

provisional foundation stock, or from registered grapevines in the same contiguous primary increase block.

Top-working will not be allowed in a rootstock primary increase block except for a one-time conversion to a scion primary increase block. Scion primary increase blocks may be top-worked once if the new scion is a different variety than the under stock. Existing regulations do not limit the number of times increase block vines may be top-worked. Increase block vines that were top worked and approved by the Department before the proposed regulations take effect will still be allowed in the program.

However, only increase blocks planted in 1993 or later will be eligible for primary increase block status after the proposed regulations take effect, and they must be tested as described in subsection 3024.6(b)(4) and have negative results prior to the Department's approval.

Increase blocks planted prior to 1993 may be eligible for secondary increase block status if they are tested as described in subsection 3024.6(b)(4) and the results are negative. There is a specific reason these older blocks will not qualify for primary increase block status under the proposed regulations. ELISA technology was used for the first time in 1992 to check the foundation blocks at FPS for the leafroll virus. About 20% of the mother vines in an old foundation block tested positive for leafroll. The distribution of leafroll virus in the foundation blocks suggested that leafroll had spread into the mother vines sometime after 1988. In 1993 R&C Program participants were required to remove all increase block vines propagated after 1988 from leafroll positive source vines. However, problems with the leafroll virus in increase blocks continue so the proposed regulations will downgrade the older blocks to secondary increase block status.

The proposed amendment of subsection 3024.3(c) covers the eligibility requirements for material in a secondary increase block. The grapevine industry has determined that there is a need for primary and secondary increase blocks. The secondary increase

block is being included in the proposed regulations to help increase the percentage of certified grapevine planting stock produced by participants. Currently only about 10% of planting stock produced by participating nurseries is certified. The remaining 90% is common stock, which is more likely to be infected with viruses. Virus infected grapevines produce lower quality fruit, require more chemical intervention (insecticides, herbicides and fertilizer) and serve as sources of virus that can be transmitted to healthy grapevines.

There are currently about 700 scion (fruiting) and 100 rootstock selections registered in the R&C Program. It takes three to five years to develop an increase block for scion wood or rootstock production and another one to two years of production to have grapevines ready for market. Participants have to anticipate the quantities and specific grapevine selections that will be in demand four to seven years in the future. Nurseries will collect scion wood from in-demand grapevine varieties from existing production vineyards (non-certified) when it is not available from a registered increase block. Growers will purchase this non-certified planting stock if it is the only way to get the variety they want.

The proposed inclusion of secondary increase blocks will allow participants to produce commercial quantities of many different grape selections because they are not required to own and farm the secondary increase blocks. The more secondary increase blocks that are established, the higher the percentage of certified grape planting stock participant nurseries will be able to produce. Therefore, this should increase the percentage of certified grapevine planting stock available and should improve the overall health of California vineyards.

Foundation stock, provisional foundation stock, and registered stock from a primary increase block are all eligible for planting in a participant's secondary increase block. However, if the propagative material used to establish a secondary increase block comes from a primary increase block, then both blocks must be registered in the R&C Program by the same participant. Top-working will not be allowed in secondary

increase blocks. However, if a participant under the existing regulations top-worked grapevines in an increase block prior to the date the proposed regulations take effect in a manner approved by the Department, then the block is eligible for secondary increase block status. This may be the only option available to a participant who had increase blocks planted prior to 1993, which were tested as described in subsection 3024.6(b)(4) and the results were negative.

The proposed subsection 3024.3(d) covers eligibility requirements for materials in a certified nursery planting. Foundation stock and registered stock (from either a primary or secondary increase block) is eligible to be planted in a certified nursery planting. Rootstocks may be top-worked (budded or grafted in place) with foundation stock or registered stock. Grapevines in certified nursery planting can only be maintained for up to two years. Limiting the time certified nursery stock may stay in a nursery planting to two years was added to the proposed regulations to help prevent virus/viroid spread. The reason is that certified nursery stock is separated from non-certified stock by a minimum of 10 feet versus the 100 feet separation for registered blocks. This results in the certified nursery stock having a higher risk of infection from adjacent vineyards.

In existing regulation, any grapevine in a nursery planting that is 12 months old or less may be used as a source of cuttings for production of additional certified scion or rootstock nursery stock. Under the proposed regulations, only rootstock cuttings from a certified nursery planting that is less than 12 months old may be used as a supplemental source of cuttings for producing additional certified nursery rootstock, after inspection and approval by the Department.

#### Section 3024.4, Propagation by Tissue Culture

The proposed amendment of Section 3024.4 will establish that it pertains to "Propagation by Tissue Culture." The references to application and fees were deleted and relocated under Section 3024.9, Application and Fees. The existing regulations did not address propagation by tissue culture because commercial grapevine nurseries

did not use the practice at the time. Several types of grape diseases can be eliminated using tissue culture (including virus diseases, and bacterial and fungal contaminants) depending on the specific tissue culture protocols used. Therefore tissue culture has the potential for producing vines with better health. At least one participant owns and operates a tissue culture lab so this provision will provide for the use of tissue culture for the production of certified grapevine stock. The potential risk associated with tissue culture is the creation of off-type varieties. As a result, the proposed regulation requires the participant to ensure the genetic integrity of the grapevines is maintained.

#### Section 3024.5, Planting Location and Maintenance Requirements

The proposed adoption of Section 3024.5, "Planting Location and Maintenance Requirements," will incorporate all of the location and maintenance requirements in the existing regulations and add some additional requirements. In the existing regulations the planting location and maintenance requirements are located in subsections 3024.2 (c) and (d).

The proposed subsection 3024.5(a) specifies that foundation, primary increase and secondary increase blocks are all subject to the same planting location and maintenance requirements. Although not specifically prohibited in existing regulation, planting sites outside the State of California have never been allowed in the R&C Program. Some industry members continue to raise questions about including remote sites outside of the State in the R&C Program. The Department wants to ensure it is clear that sites located outside of this State do not qualify to be in the R&C Program.

The existing regulations state that the Department must approve planting sites but do not stipulate that this must be done prior to planting. Under the proposed regulations it is clear that the sites must be approved by the Department prior to planting. This will help ensure that potential participants do not start a grapevine planting only to find out later that the Department cannot approve the site.

The existing regulations stipulate that each planting shall be located at least 100 feet from any land on which grapevines have grown within the past ten years. The proposed regulations have modified this requirement so that eligible sites cannot include any land planted to nonregistered or disease infected grapevines within the last 10 years and the sites must be separated by at least 100 feet from any land on which non-registered grapevines have been grown with the past 10 years. The Department may approve planting sites with less than 100 feet of isolation providing that a minimum 100-foot buffer zone has been planted with foundation, registered or certified grapevines and is maintained between non-registered grapevines and the registered block.

The proposed regulations establish that greenhouses may be used to produce registered grapevines. A non-soil medium may be used in greenhouses. However, if a soil based medium is used, it must be treated as required in the California Code of Regulations, Title 3, Section 3055.5. The provision for growing vines in greenhouses was added as greenhouse propagation is becoming more prevalent at all levels of the R&C Program. Grapevines can be produced faster in greenhouses, and it uses less propagation materials than for field grown vines.

The proposed regulations specify that foundation; primary and secondary increase blocks must be contiguous plantings. "Contiguous plantings" is an implied concept in the existing regulations. In the proposed regulations, "contiguous plantings" is defined as "a planting of grapevines on land that is physically intact, without any separations by a public road or any land used for a purpose unrelated to the planting." This definition is used to limit how much a participant may expand a primary increase block using propagative materials from within the block. If the continuity of the land on which the block is located is broken, then the participant must start over with materials from the foundation block. New provisions for secondary increase blocks will allow participants to continue to plant separate secondary increase blocks that have a lower status.

Finally, registered grapevines growing in containers in a greenhouse must be grouped together and separated from non-registered grapevines.



The proposed adoption of Section 3024.5(b) pertains to the planting location and maintenance requirements for certified blocks.

This amendment specifies:

- Eligible planting sites must be within the State of California and must be approved in advance by the Department,
- Certified grapevines growing in containers in a greenhouse must be grouped together and separated from registered and non-registered grapevines, and
- Field grown certified nursery plantings must be separated from non-certified grapevines by at least 10 feet where the soil has been treated to control nematodes or where the soil has not been treated for nematodes, separated from non-certified grapevines by at least 20 feet.

Additionally, nursery rows must be fallowed for at least one year between nursery crops. This is a new requirement in the program to reduce the chances of producing off-type vines and spreading disease. Cuttings or roots that remain in the nursery row after harvest sometimes grow in the next year and could accidentally mix with the new season grape variety/selection. Leaving the ground fallow for a year reduces this possibility.

#### Section 3024.6, Inspection and Testing Procedures

The Department is proposing to adopt Section 3024.6, “Inspection and Testing Procedures.” In the existing regulations, the inspection and testing procedures are located in Section 3024.3. The proposed inspection and testing procedures have been modified extensively in order to incorporate new knowledge about grapevine diseases and new technology for detecting grapevine viruses and other graft transmissible pathogens.

Most of the agents that cause the diseases targeted by the program were unknown when the existing regulations were implemented in 1984. Since then, plant pathologists have been able to identify specific viruses/viroids that cause all of the diseases targeted in the proposed regulations. The proposed regulation adds the disease agents of concern in Section 3024.6(a), Table I. In the existing regulations, demonstrating that a disease is present by symptoms disqualifies the grapevine material. In the proposed regulations, grapevines testing positive for a “disease agent of concern” will be disqualified.

In 1984, the only ways to detect the diseases of concern to the R&C Program were visual inspections and the use of biological indexing by two methods – herbaceous and woody plants.

Herbaceous indexing occurs in a greenhouse and involves extracting grape tissues and rubbing this extract onto leaves of a sensitive indicator plant (*Chenopodium* sp.). After an incubation period of 10-14 days, the indicator plant will show characteristic symptoms if certain virus(es) were present in the grapevine.

Woody plant indexing requires a minimum of two years. Material from the candidate vine is grafted onto the indicator grapevine (St. George, Cabernet franc, LN-33 or Mission); the vine is planted in the field where it is inspected periodically for symptoms over two growing seasons. For diseases such as stem pitting the indicator plant must be uprooted and have the bark removed to check for symptoms.

All of the indexing tests required to qualify new materials under the existing regulations are included for screening candidate materials in the proposed regulations. In addition, laboratory based tests (enzyme-linked immunosorbent assay (ELISA) and/or polymerase chain reaction (PCR)) approved by the Department to detect Grapevine Fanleaf Virus, Tomato Ringspot Virus and Grapevine Leafroll associated viruses 1,2,3,4,5,6,7,9 and 2RG, and Grapevine Virus B must also be used to screen materials that will enter the program after the proposed regulations take effect.

In wide use in plant pathology since the 1980s, ELISA is a serological test that utilizes antibody reactions for known disease agents. It is a relatively simple and inexpensive method to obtain results in a short period of time (one or two days). ELISA has been used for fanleaf and leafroll detection at FPS and in the existing R&C registered increase blocks since the early 1990s. A shortcoming of the ELISA is that the antisera for all of the known grape viruses/viroids are not known. Therefore, it is important to retain index testing as part of the virus-testing program at the foundation level.

PCR is a molecular assay that targets the genetic material of viruses/viroids. In order to use PCR, a specific molecular sequence unique to the virus in question must be identified. This unique sequence is amplified during the PCR process so that even trace amounts of a virus are detectable.

The proposed changes in testing methods will help ensure the disease status of the grapevine materials in the R&C Program is accurately and reliably determined. Because of their ability to mutate and have slight variations, the detection of viruses/viroids is more reliable by using different tests to determine the presence or absence of virus. Since 2000, FPS has used both ELISA and PCR tests to detect all of the disease agents of concern listed in the proposed regulations when adding new grapevines to its Foundation Block. Over the last eight years many new grapevine selections have tested negative for leafroll using the field indicator Cabernet Franc, but have tested positive using ELISA and/or PCR. The opposite scenario (negative PCR and ELISA but positive field index results) has also occurred.

The proposed regulations also include the use of two new herbaceous indicators (cucumber and tobacco) for the detection of the diseases grape decline and grapevine degeneration; and either the new field indicator plant, Kober 5BB for Kober Stem Grooving, or a PCR test for Grapevine Virus A (the disease agent associated with Kober Stem Grooving).

One of the most important program components in the proposed regulations is the requirement for more frequent testing in foundation blocks and the new requirement for testing in primary and secondary increase blocks. The existing regulations only require testing of new materials before they are planted in the foundation block. Additional testing is required only if virus/disease is suspected. Additionally, once a participant has obtained propagating materials from FPS, no further testing is required. Under the proposed regulations, every foundation block vine and each primary and secondary increase block must be re-tested at least every five years for grapevine fanleaf virus, tomato ring spot virus, and leafroll associated virus. These additional testing requirements are proposed because virus infections are often impossible to detect by visual inspection alone. Under the proposed regulations, certified plantings may be tested for these viruses but it is not required.

More routine testing for these diseases is being proposed to improve the integrity of the R&C Program by more reliably knowing the disease status of the grapevines produced by its participants. Currently, the Department assays approximately 4,500 fanleaf samples and approximately 1,500 leafroll samples annually. The Department does no routine sampling for tomato ring spot.

The Department relies on the ELISA to test for the presence of fanleaf or leafroll. Fanleaf samples are composited five vines/sample prior to performing the ELISA; therefore the 4,500-fanleaf samples represent 20,000 vines. Leafroll samples cannot be composited for ELISA because the results would not be reliable. Once the proposed regulations take affect, the Department would be collecting 4,500-leafroll samples/year in order to achieve a statistically valid sample of all the blocks in the program. The number of fanleaf samples would remain the same.

Currently, the California Fruit Tree, Nut Tree and Grapevine Improvement Advisory Board (IAB) subsidizes the fanleaf and leafroll testing. It is not known at this time whether the IAB will subsidize the added testing. The added testing will result in increased program costs as follows: \$33,000 for leafroll (3,000 additional samples @

\$11/sample) and \$24,750 for tomato ringspot (4,500 samples @ \$5.50/sample). Grapevines in increase blocks will be checked for leafroll 2 and 3, which requires running two ELISAs on each sample, hence the \$11.00/sample. Should the IAB not cover these added costs, the participant would be required to do so.

The Department recognizes that new and more effective tests may be developed in the future and that new plant diseases may be found in grapevines in the future thus necessitating the development of new tests to detect these diseases. The proposed subsections 3024.6(c) and (d) will provide a mechanism for the Department to grant approval for tests other than those listed, based on generally accepted standards of scientific analysis. The Department must publish a notice on its Web site of any approvals granted.

The inspection requirements in Section 3024.6(e) in the proposed regulations are the same as in existing regulations.

#### Section 3024.7, Refusal, Suspension, or Cancellation of Registration or Certification

The Department proposes to adopt Section 3024.7, Refusal, Suspension, or Cancellation of Registration or Certification. In existing regulations, Section 3024.3(c) contains the requirements for suspending registration and Section 3024.3(d) contains the requirements pertaining to the refusal or cancellation of registration.

The existing regulations provide for the suspension of vines in foundation, registered increase or certified blocks if a graft-transmissible disease is detected in a vine in the foundation block. Additionally, the participant is required to notify in writing all recipients of the nursery stock from the suspended vines. The registration or certification status may be reinstated by the Department provided that the participant agrees to specify the virus disease on all invoices, sales slips and certification tags. The participant must

keep records of all sales transactions of nursery stock produced from suspended vines and provide a copy to the Department.

Under the proposed regulations, registration of any grapevine plants or planting in a foundation, primary or secondary increase block may be suspended for any of the following reasons:

1. Preliminary tests or visual inspections indicate that the grapevine(s) may be infected with a disease listed in Section 3024.6, Table 1 of this article.
2. The grapevines are off-type.
3. The pest cleanliness requirements in Title 3, California Code of Regulations, Section 3060.2 have not been met.
4. The source that the grapevines were propagated from is diseased and the grapevine(s) are also suspected of being diseased.

The suspension of plants or plantings allows the Department to apply an interim label to grape materials while a potential disease or identification problem is investigated. When a grapevine tests positive for a disease of concern, registration would be temporarily suspended pending the results of a second test. If results of the second test were positive, the registration of the grapevine would then be cancelled.

The reasons for refusal or cancellation in the proposed regulations are very similar to those in existing regulations. Under existing regulations, if it is determined that a foundation block vine or registered increase block vine is infected with a transmissible disease, the registration or certification of plants propagated from such a source may be cancelled or refused if it is determined that they are “liable to be infected”. Under the proposed regulations, “liable to be infected” would no longer be grounds for refusal or cancellation of registration. Instead, if the parent material were found to be infected with a graft-transmissible disease, the progeny would also have to be tested for the disease infecting the parent material. Only a positive test result in the progeny would lead to cancellation of registration or certification of the progeny.

### Section 3024.8, Certification of Grapevines by a Second Party

The proposed adoption of Section 3024.8 provides for a second party to purchase certified material from a program participant and then act as a broker and sell the material as certified stock to a third party under the second party's name. The second party must fill out an application and submit an inventory of all grapevines and sources to the Department. Allowing a second party to broker certified grape planting stock in this manner facilitates the marketing of certified stock. The existing regulations permit only the participant propagator of certified stock to sell stock as certified.

### Section 3024.9, Application and Fees

The Department proposes to adopt Section 3024.9, Application and Fees. The current requirements pertaining to the application and fees are contained in the existing Section 3024.4.

Existing regulations state that the participant is required to submit an application "for the acceptance of any new planting and for subsequent inspections, approvals, registration or certification . . . sufficiently in advance of time of planting to permit the Department to establish the origin of the stock, to determine the suitability of the location".

The proposed regulations would require the participant to submit an application for the initial acceptance of any planting and annually thereafter. If the participant adds vines in a primary or secondary increase block or top works the vines, the participant has up to six months to submit a new application. If the participant adds new vines to a certified nursery planting, the participant has up to two months to submit a new application.

The proposed regulations itemize the information that the participant is required to provide on an application prescribed by the Department.

As in existing regulations, the proposed regulations require that fees be paid in advance. However, the proposed regulations also include a provision for a late fee if the application is received more than six months after new plantings in a primary or secondary increase block or more than two months after new plantings are made in certified block.

The proposed regulations reference Title 3, Division 4, Section 4603 for a schedule of fees. This is where the Department's schedule of fees for service charges is located. As this is a voluntary R&C Program and participants request it as a service, this is the appropriate section for these fees to be located.

In order to give the affected grapevine participants time to prepare and make decisions pertaining to future production of registered and certified grapevine nursery stock, the Department is requesting that these regulations become effective July 1, 2009. Additionally, this will also coincide with a new fiscal year and facilitate any adjustments needed for billing participants for the services rendered by the Department.

#### Estimated Cost or Savings to Public Agencies or Affected Private Individuals or Entities

The Department of Food and Agriculture has determined that the amendment of Sections 3024, 3024.1, 3024.2, 3024.3 and 3024.4; and, adoption of Sections 3024.5, 3024.6, 3024.7, 3024.8 and 3024.9 do not impose a mandate on local agencies or school districts. The Department also has determined that no savings or increased costs to any state agency, no reimbursable costs or savings under Part 7 (commencing with Section 17500) of Division 4 of the Government Code to local agencies or school districts, no nondiscretionary costs or savings to local agencies or school districts, and no costs or savings in federal funding to the State will result from the proposed action.

The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.



The Department has determined that the proposed action will not have a significant adverse economic impact on housing costs or California businesses, including the ability of California businesses to compete with businesses in other states. The Department's determination that this action will not have a significant adverse economic impact on businesses was based on the following:

These regulations modify the requirement for an established voluntary program. There is no economic impact on businesses that choose not to enter the program. Fees paid by program participants for services fund the program costs. Nursery stock meeting requirements of the program may be sold as registered or certified which should be more desirable to purchasers and greater profits may result. The proposed changes in the regulations should benefit grapevine nursery stock producers who are participants by increasing the availability of grapevine nursery stock that has been tested and found negative for specified diseases. Grape fruit producers should also benefit through the increased availability of registered and certified grapevines enabling them to avoid significant losses in fruit production.

#### Assessment

The Department has made an assessment that the repeal of the regulation would not 1) create or eliminate jobs within California; 2) create new business or eliminate existing businesses with California; or 3) affect the expansion of businesses currently doing business with California.

#### Alternatives Considered

The Department of Food and Agriculture must determine that no alternative considered would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

### Information Relied Upon

The Department is relying upon the following studies, reports, and documents in proposing the amendment of Sections 3024, 3024.1, 3024.2, 3024.3 and 3024.4; and, the adoption of Sections 3024.5, 3024.6, 3024.7, 3024.8 and 3024.9:

“FPS Test Procedures for Detecting Viruses and Target Diseases In Foreign Grape Introductions,” updated March 2008, Foundation Plant Services.

Minutes, dated November 29, 2007, FPS Grape Advisory Committee.

Minutes, dated February 23, 2007, California Grape R&C Revision Committee.

“New Draft of the Regulations for the California Registration and Certification Program for Grapevines is Ready for Review,” dated November 2007, page 37, Susan Nelson-Kluk, FPS Grape Program Manager, FPS Grape Program Newsletter. On the web at: <http://fps.ucdavis.edu/WebSitePDFs/Newsletters&Publications/GrapeNewsletterNov2007.pdf>

Memo, dated February 6, 2007, from Susan Nelson-Kluk, to participants in the California Grapevine Registration and Certification Program, grape growers, farm advisors, county agricultural commissioners, regulatory officials, scientists and other intersected individuals.

“Revising Regulations for the CDFA Grapevine Registration and Certification Program,” dated November 2006, page 29, Susan Nelson-Kluk, FPS Grape Program Manager, FPS Grape Program Newsletter. On the web at: <http://fps.ucdavis.edu/WebSitePDFs/Newsletters&Publications/GrapeNewsletterNov2006.pdf>

Minutes, dated April 26, 2006, California Grapevine R&C Program Revision Meeting.

“Grape R&C revision list with comments and additions from 2/22/06 meeting in blue,” undated.

Minutes, dated January 13, 2006, California Grapevine R&C Program Regulation Revision Meeting.

Minutes, dated October 12, 2005, California Grapevine R&C Program Regulation Revision Planning Session.

“R&C Program Changes,” dated October 1998, page 8, FPMS Grape Program Newsletter. On the web at:

<http://fps.ucdavis.edu/WebSitePDFs/Newsletters&Publications/GrapeNewsletter98.html>

“Proposed California Grapevine Registration and Certification Program Changes,” dated October 1997, page 7, FPMS Grape Program Newsletter. Newsletter on the web at:

<http://fps.ucdavis.edu/WebSitePDFs/Newsletters&Publications/GrapeNewsletter97.pdf>